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evelopment Report

The material presented in the following report results from product development work carried on by American Steel and Wire in cooperation with independent manufacturers. Tests quoted here were held only on specific applications mentioned. Variations of this application should be tested by methods most suitable to the user.

As innovators in wire, we welcome a chance to work closely with you to create new products and establish new markets for products made from steel wire. *USS is a registered trademark*

A211-X

Vinyl Foam — Wire Laminate: new material for

Headliners and Sun Visors

Description:

A new combination of materials—vinyl foam and steel wire mesh—offers many advantages to the automotive designer and is particularly useful as headliners or sun visors.

Advantages:

Vinyl foam-wire laminate performs all the functions of a headliner better than presently used materials, yet costs very little more in finished product form. (Intermediate assembly steps during fabrication are eliminated.) It can be formed easily, and then hold its shape. Because of its vinyl covering, design pattern and coloring are unlimited. The vinyl foam steel wire mesh laminate helps deaden sound, provides an insulation barrier against heat, and offers higher resistance against puncture and tear than present materials. It can be die-cut, or sewn, all on standard equipment.

How Made:

A three-ply laminate is made in one operation on specially designed laminating equipment so that a 6 mil vinyl skin is laminated to an 80 mil vinyl foam in which fine steel wire mesh is completely embedded. The degree to which the vinyl skin and vinyl foam are laminated and the wire mesh embedded is governed through close control of tension, heat and machine speed. The composite forms a bond stronger than the internal strength of the foam itself.

Test Data:

Will meet Ford Motor Company manufacturing Standards MF and Fisher Body Specifications NO ER- 51685-B, 26-B.
Weight: 65-70 oz./sq. yard
Grab-Tensile Test - greater than 150 lbs. (Maximum limit of test equipment)
Trapezoid Tear - warp 38 lbs., fill 39 lbs.
Percent Stretch - warp 2%, fill 2%
Percent Set - warp 2%, fill 2%
Hydrogen Sulfide - Skin satisfactory
Adhesion - rated "inseparable" - i.e., greater than strength of foam
Crocking - Satisfactory
Fogging - Rated test - 82
Spec. min. - 75
Wire Used - standard electrogalvanized wire cloth

Economics:

80 mil Vinyl Foam Wire Laminate approx. $4.20 per lineal yard (54" wide)

Availability:

This material is now available; widths up to 60 inches are being fabricated.
Put-up - 150 yards maximum
Colors - as required; any present automotive specification available
Finish - as required; any present automotive specification available

Additional Product Data:

Deep drawing is possible as long as radius of curvature is not radical. When material of this construction is used in the manufacture of decorative automotive interiors, fabrication is greatly simplified since the material can be die-cut and press molded for snap-in type applications. Operations such as cutting, sewing and assembling now required for fabrication materials currently being used, could be eliminated.

Dielectric molding of foam wire laminate is not practical at this time because the wire embedded in the foam will cause either an overload or an arc due to its conductive nature. Technical work is being conducted to overcome this situation for possible future development.

The test data shown above are generally considered to be indicative of the performance of the overall construction of the material being tested.

Vinyl foam-wire laminate may also be used as rear decking, dashboard covering, scuff pads on doors, or interior door panels.

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For further information write: Mr. R. F. Smith, Manager, Market-Product Development, Room 846, American Steel and Wire, Rockefeller Building, Cleveland 13, Ohio; or contact your nearest American Steel and Wire Sales Office.

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